BUILD YOUR CROSS-PLATFORM SERVICE IN A WEEK

JOSE L UGIA
WHO ARE YOU?

WUNDERLIST
Former Head of Android
Wunderlist is a market leader productivity app with more than 6 mio. users supporting more than 5 platforms connected altogether through a central API.

MOMENTA
Co-Founder
Momenta is an app that captures images and sound at the same time to help users keep their memories in an easier manner. Its API is built using App Engine.
Day 1: Today, me convincing you that this is possible.
Day 2: Shape your product and design your system.
Day 3: Bring all the pieces together. Address your most important needs.
Day 4*: Don’t stop coding until you see something.
Day 5: Get feedback, polish and distribute in beta mode.
* Don’t crunch, it won’t work. Day 4 can take two days.
WHAT AFTER? RUN THE LOOP

LEARN TO LIVE IN A BETA ENVIRONMENT. MOVE, ITERATE AND PIVOT FAST BASED ON NEW KNOWLEDGE
@imcatnoone @rrhoover @tunepics @MomentaApp
yes, not overly originally but good execution.

05/08/14 18:40
FAST ITERATION PROCESS. WHY?

1. **Measure:** Identify quickly technical problems, challenges and barriers

2. **Feedback loop:** Check how the market reacts towards your product

3. **Visibility:** Find supporters, coworkers, investors, mentors, etc

4. **Find your beach head:** Find a niche where to start growing
BUT REALLY...IN A WEEK?

- Training
- Code repos
- Organization
- QA & Resources
MASTER IT - PRO TIPS

BE OPEN
To new ideas, feedback, critics. Discover what others try to contribute with.

MOVE BOLDLY
Take risks, there’s not much to lose. Costs are low.

BE READY TO PIVOT
Processing information and reacting quickly is key to move forward.
GOOGLE CLOUD PLATFORM

Hosting + Compute
- App Engine
- Compute Engine

Storage
- Cloud Storage
- Cloud Datastore
- Cloud SQL

Big Data
- BigQuery

Services
- Cloud Endpoints
- Translate API
- Prediction API
Scalability: Managed by the service when on Auto mode.

Simplicity: The instances, ELBs, CDNs are all configured.

Free tiers: There’s enough room as to get your project running.

More: https://cloud.google.com/products/
**Database:** SQL or non-SQL (object based)

**Binary Storage:** Blob Store or Google Cloud Storage

**Libraries:** Jinja2 (python templates), webapp2 (app engine’s basic env), json, etc

**More services**
THE PLAN

APP ENGINE

CLOUD SQL

CLOUD DATASTORE

CLOUD STORAGE

Python

Gopher
application: moscow-2014
version: 1
runtime: go
api_version: go1

handlers:
- url: /.*
  script: _go_app

---

application: moscow-2014
version: 1
runtime: python27
api_version: 1
threadsafe: yes

handlers:
- url: /.*
  script: main.app

libraries:
- name: webapp2
  script: "2.5.1"
PROJECT STRUCTURE

Python

- `INDEX.YAML` defines indices for data model
- `MAIN.PY` acts as a router for controllers
- `MODEL DIR` hosts data model
- `CONTROLLERS DIR` hosts data controllers

Go

- `INDEX.YAML` defines indices for data model
- `CONTROLLERS DIR` hosts data controllers
- Each controller holds its own model and router
#!/usr/bin/env python
#
Imports go here!!

# Requested URLs that are not listed here will return 404

ROUTES = [
    DomainRoute(':<(moscow-2014\.appspot\.com|localhost)>', [ # Allowed domains
        # Attendees
        Route(r'/users', handler=AttendeesController, name='attendees')
    ])
]

app = webapp2.WSGIApplication(ROUTES, debug=False)

PRO-TIP: ALL YOU NEED TO KNOW ABOUT ROUTING
HTTP://WEBAPP-IMPROVED.APPSPOT.COM/GUIDE/ROUTING.HTML
YOUR FIRST CONTROLLER

```
#!/usr/bin/env python
# Imports go here!!

class AttendeesController(webapp2.RequestHandler):

    def get(self):
        # Retrieve attendees
        results = []
        ...

        if(self.response.status_int == 200):
            self.response.write(json.dumps(self.outputBody, cls = JsonSerializer))

    def post(self):
        ...
```

PRO-TIP: GET THE WHOLE SOURCE AT HTTPS://GITHUB.COM/JLUGIA/MOSCOW14-API-PYTHON
def get(self):
    # Retrieve attendees
    results = []
    q = User.all()  # Can also use q = User.gql(args)
    for user in q:
        results.append(user)
    self.outputBody = results
    self.response.status = 200
    if self.response.status_int == 200:
        self.response.write(json.dumps(self.outputBody, cls=JsonSerializer))
def post(self):
    if authorization == "fuck_up:
        self.response.status = 401
    elif validation == "fuck_up:
        self.response.status = 422  # You can also return errors in the body
    else:
        new_user = User(**self.inputBody)
        new_user.put()

        self.outputBody = new_user
        self.response.status = 201

    self.response.write(json.dumps(self.outputBody, cls = JsonSerializer))
$ goapp deploy

OR

USE GOOGLE APP ENGINE LAUNCHER (PYTHON & PHP)

PRO-TIP: DEPLOY YOUR GO APP
HTTPS://DEVELOPERS.GOOGLE.COM/APPENGINE/DOCS/GO/TOOLS/UPLOADINGANAPP#GO_UPLOADING_THE_APP
**BASIC ANDROID APP**

**Structure:** Fragment based, drawer pattern

**Networking:** OkHttp

**Threading:** New threads and executors. Services and IntentServices are also valid

**minSdkVersion** 14
new Thread(new Request().forUri("/users").callsBackTo(new Request.RequestCallback() {

    @Override
    public void onSuccess(String responseBody) {

        Type collectionType = new TypeToken<List<Attendee>>() {}.getType();
        final List<Attendee> attendees = mGson.fromJson(responseBody, collectionType);

        runOnUiThread(new Runnable() {
            @Override
            public void run() {
                mNavigationViewFragment.updateAttendees(attendees);
            }
        });
    }
})
MADE WITH...

- GitHub
- SourceTree
- Android Studio
- Sublime Text
- App Engine + Launcher
- Graphical HTTP Client
YOU ARE NOT ALONE

SAVE IN RESOURCES

IMPROVE QUALITY

SAVE TIME

Github/ToolsOfTheTrade
https://github.com/cjbarber/ToolsOfTheTrade

stackshare.io
KEEP TRYING AND BE NICE

#FAIL
THANKS A MILLION!

API PYTHON: HTTPS://GITHUB.COM/JLUGIA/GAE-STARTER-API-PYTHON
API GO: HTTPS://GITHUB.COM/JLUGIA/GAE-STARTER-API-GO
ANDROID APP: HTTPS://GITHUB.COM/JLUGIA/GAE-STARTER-ANDROID

CREDIT: Google